APPENDIX A - MARKET ANALYSIS

Introduction

Economics Research Associates (ERA) was retained by the District Office of Planning under sub-contract to HOK to provide economic consulting services as an input to the development of a planning strategy for the H Street corridor Study Area. This memorandum sets out the methodology and findings of an analysis of base economic conditions in, and forecasts for, the Washington metropolitan area. We have examined the demographic and economic characteristics, real estate market trends and conditions and have then developed 10-year land use planning targets for the corridor.
The planning targets represent ERA's preliminary estimates of supportable development in the corridor over the next ten years or so. It should be stressed that forecasts based in large part on current market conditions and recent trends therein are of more limited value when looking more than five years into the future.

Methodology

ERA's approach was comprised of the following main components:

- An examination of key regional economic indicators such as employment and population trends and projections.
- An analysis of demographic and economic conditions in the corridor.
- An assessment of real estate market conditions for office and residential uses in the District and relevant sub-markets.
- The preparation of estimates of supportable office and residential development in the corridor.
- A retail market assessment for the corridor including potential future induced demand for retail space generated by new residents and workers.
- An assessment of the implications of new cultural and entertainment facilities on the potential for eating and drinking establishments.
- A discussion of the implications of new big box uses and mall development at either end of the planning area for other retail uses in the corridor.

Economic Overview

Following is an overview of the economic and demographic trends in the Washington metropolitan area to gauge the strength of the economic base and overall potential for commercial and residential markets.

The Metropolitan Washington Economy

The Washington economy appears to be at the end of a recession at the present time, reflective of national economic conditions. Indications of the current recession became evident during the first half of 2001 increasing in severity following the events of September 11. While the recession has and will continue to effect real estate market conditions in the short term, we believe that market fundamentals for continued medium and long-term growth in the region are sound. Indeed, signs of a recovery already exist including a recent decline in the District unemployment rate.

The Washington metropolitan area has experienced positive growth of 15.1 percent in its employment base over the last five years with around 63 percent of such growth concentrated in the service sector, which generates significant demand for office space. Currently the service sector comprises approximately 41 percent of all employment in the region.

The technology sector has experienced significant contraction during the past 18 months or so. The failure of many tech businesses to meet earnings expectations prompted a swift market "correction" on Wall Street resulting in numerous Chapter 11 bankruptcy proceedings and the loss of thousands of jobs. It is the general consensus among market analysts that the technology sector "shake-out" has stabilized and we forecast that growth in the technology sector will return by mid-2003 and continue to fuel demand for new office space in the region to the forecast horizon.

The Washington DC Primary Metropolitan Statistical Area's current unemployment rate of 3.6 percent continues to be among the lowest of any major metropolitan area in the United States. According to forecasts prepared by the Metropolitan Washington Council of Governments (COG),

WASHINGTON, DC METRO AREA POPULATION PROJECTIONS (In 000s)

Jurisdiction	2002	2007	2012	CAGR 2002 - 2012
District of Columbia	520.3	536.0	568.0	0.9%
Arlington County	194.5	199.5	203.7	0.5%
City of Alexandria	128.8	132.9	136.7	0.6%
Central Jurisdictions	**843.5**	**868.4**	**908.4**	**0.7%**
Montgomery County	877.0	924.0	957.0	0.9%
Prince George's County	800.6	835.7	865.9	0.8%
Fairfax County	999.1	1,072.4	1,130.0	1.2%
City of Fairfax	21.9	22.3	22.7	0.4%
City of Falls Church	10.5	10.6	10.7	0.2%
Inner Suburbs	**2,709.0**	**2,865.0**	**2,986.3**	**1.0%**
Loudon County	198.6	264.6	331.0	5.2%
Prince William County	300.4	333.3	358.0	1.8%
Manassas & Manassas Park	43.8	45.0	45.5	0.4%
Calvert County	77.3	83.3	88.8	1.4%
Charles County	128.6	142.1	156.7	2.0%
Frederick County	203.6	225.3	247.0	2.0%
Stafford County	82.1	90.8	99.5	1.9%
Outer Suburbs	**1,034.4**	**1,184.3**	**1,326.4**	**2.5%**
Northern Virginia	1,979.6	2,171.5	2,337.8	1.7%
Suburban Maryland	2,087.0	2,210.2	2,315.3	1.0%
Regional Total	**4,586.9**	**4,917.7**	**5,221.1**	**1.3%**

Source: Metropolitan Washington Council of Governments; US Census Bureau; Economics Research Associates, October 2002.

EMPLOYMENT FORECASTS FOR THE WASHINGTON METROPOLITAN REGION 2002-2012 (In 000s)

Jurisdiction	2002	2007	2012	CAGR 2002 - 2012
District of Columbia	**701.4**	**739.9**	**792.6**	**1.2%**
Manufacturing	11.0	9.6	7.8	-3.3%
Mining / Construction	12.7	15.9	20.1	4.7%
TCPU	19.0	20.2	21.0	1.0%
Wholesale/Retail Trade	54.7	57.7	59.5	0.8%
FIRE	35.3	38.3	41.1	1.5%
Services	335.6	378.1	423.1	2.3%
Government	233.1	220.0	220.0	-0.6%
Northern Virginia	**1,147.9**	**1,268.0**	**1,395.7**	**2.0%**
Manufacturing	34.8	29.8	23.6	-3.8%
Mining / Construction	78.5	100.8	130.9	5.2%
TCPU	84.6	108.0	139.4	5.1%
Wholesale/Retail Trade	217.5	222.9	219.5	0.1%
FIRE	61.6	65.4	67.4	0.9%
Services	484.2	561.4	640.6	2.8%
Government	177.3	179.7	174.9	-0.1%
Suburban Maryland	**1,100.5**	**1,169.5**	**1,250.7**	**1.3%**
Regional Total	**2,952.3**	**3,177.4**	**3,436.9**	**1.5%**

Source: Metropolitan Washington Council of Governments; Bureau of Labor Statistics; Economics Research Associates, October 2002.

regional employment is expected to total 3.4 million jobs by 2012, a 16 percent increase over the 2002 employment base of 2.9 million jobs.

Population Forecasts

- The region's population is expected to grow steadily through the forecast period of 2002-2012, averaging approximately 63,000 persons every year. Population growth will be spurred by the long-term strength of the region's economy; high rates of in-migration and international migration; and less rapid declines in average household size than were previously anticipated.
- The largest quantity of population growth between 2002 and 2012 is projected for the outer suburbs, which are comprised of Loudoun, Prince William, Calvert, Charles, Frederick, and Stafford Counties. They are projected to add 292,000 persons by 2012. The Beltway-oriented jurisdictions of Fairfax, Montgomery and Prince George's Counties are expected to grow by a total of 277,000 persons.
- Loudoun County will experience the greatest growth, increasing by around 66 percent over the forecast period.
- Comparatively, the District of Columbia, which had been losing population steadily since well before 1990 through 2000, is now experiencing a slight resurgence with a projected annual growth rate of around one percent per year through 2012 (MWCOG). This growth rate may increase as the city continues its financial recovery and with continued strong investment, economic activity and development.

Employment Forecasts

- According to projections prepared by COG, regional employment growth is expected to keep pace with population growth. Between 2002 and 2012 the workforce is forecast to grow by 16.4 percent.
- Job growth in Northern Virginia (2.0 percent per year) is projected to outpace growth in both suburban Maryland (1.3 percent per year) and the District (1.2 percent per year) from 2002 to 2012.
- Collectively, the region's inner suburbs, including Falls Church, Montgomery County, Prince George's County and Fairfax County, will add the largest number of new jobs, 425,000, from 2002 to 2022.
- The outer suburbs, comprising the counties of Loudoun, Prince William, Calvert, Charles, Frederick and Stafford are projected to add 251,000 jobs.
- Despite tremendous suburban growth, the District of Columbia is forecast to continue to have the largest number of jobs of any single jurisdiction, accounting for 23 percent of the region's employment in 2012.
- Employment projections indicate that the District will add about 91,000 jobs from 2002 to 2012. By 2012, it is expected that 53 percent of all District jobs will be in the service sector. Such industries are strong demand generators for office space.
- Forecast District employment growth should generate demand for approximately 11.6 million square feet of office space over the next ten years.

Summary – Economic Overview

- The Washington metropolitan area economy has experienced significant growth during the past decade, a trend that is forecast to continue during the coming 20 years or so.
- Growth in the technology sector has been the primary force driving demand for new office space in the region. This sector has experienced downsizing due to a market correction in relation to over-valued telecommunications and e-businesses. Nevertheless, we anticipate that, in the long-term, the sector will continue to play a centrally important role in regional economic growth.
- Forecast employment growth in all sectors will fuel demand for around 11.6 million square feet of additional office space in the District to the year 2012.

Market Analysis

ERA has conducted an analysis of market conditions for office and multiple unit residential uses in the District and sub-markets relevant to the study area. Based on the findings of this analysis and the potential for employment and population growth in the District, we have developed estimates of supportable development for these uses over the next ten years. The retail market assessment that follows utilizes a trade area resident expenditure approach. Estimates are developed for supportable retail space in the corridor both now and in the future. We have explored the potential for increases in demand over the next ten years as a result of changes in the household income base together with additional expenditures derived from new residents and workers.

The resultant planning targets represent the envelope of supportable development for use by the team in the preparation of planning concepts for the study area. These targets should not be viewed as a prescription for land use but rather a guide for the upper limits of market potential and a check on

Office Space Demand Forecast *2002-2012 (Thousands)*	
	2002 to 2012
Net New Employees in the District of Columbia	
Services	87.50
Government	-13.09
FIRE	5.73
TCU	2.00
Total	**82.14**
Office Space Demand (Sq Ft)	
Services	12,031.33
Government	-2,454.19
FIRE	1,073.91
TCU	224.88
Total, District of Columbia (Sq Ft)	**10,875.93**
Allowance for Stabilized Vacancy	**7%**
Net Total	**11,637.24**

Source: Metropolitan Washington Council of Governments; and Economics Research Associates.
Note: Assumes the following office space utilization ratios: Services - 55%; Government - 75%; FIRE - 75%; TCU - 75%.

WASHINGTON DC OFFICE MARKET INVENTORY BY SUBMARKET, 1995 - 2nd QUARTER 2002
(000's)

	1995	Share of DC	2nd Qtr 2002	Share of DC
Total Washington DC	94,728	100.0%	101,082	100.0%
Central Business Districtct	34,590	36.5%	34,887	34.5%
East End	29,875	31.5%	33,098	32.7%
Georgetown	2,814	3.0%	2,694	2.7%
Southwest/Southeast	9,530	10.1%	10,848	10.7%
Union Station	6,408	6.8%	7,988	7.9%
Uptown	7,185	7.6%	7,237	7.2%
West End	4,327	4.6%	4,330	4.3%

Note: Figures do not include an approximate 11.9 million square feet of GSA owned property.
Source: Grubb and Ellis Research Division; Economics Research Associates, November 2002.

the team's planning solutions for the corridor.

Office Market Analysis

The following represents an overview assessment of real estate market conditions for office uses in the District and relevant sub-markets and our assessment of the implications for future potential office development in the H Street corridor. The analysis by class of space utilizes the Building Owners and Managers Association (BOMA) classification definitions which are as follows:

Class A: Most prestigious buildings competing for premier office users with rents above average for the area. Buildings have high quality standard finishes, state of the art systems, exceptional accessibility and a definite market presence.

Class B: Buildings competing for a wide range of users with rents in the average range for the area. Building finishes are fair to good for the area and systems are adequate, but the building does not compete with Class A at the same price.

Class C: Buildings competing for tenants requiring functional space at rents below the average for the area.

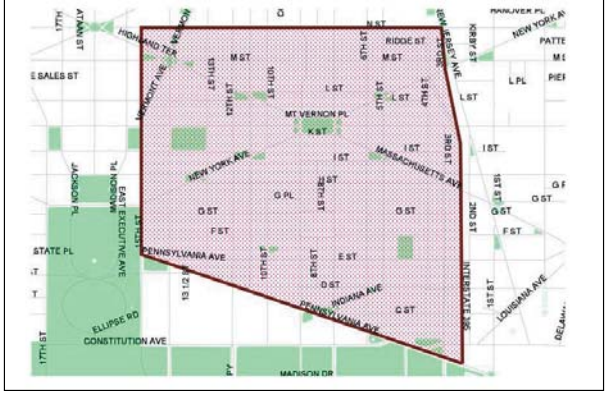
Overview of Market Conditions. While aggregate vacancy rates have risen slightly since a seven-year low in 2000, the District office market remains healthy. As of the second quarter of 2002, overall downtown vacancy is estimated to be 7.7 percent, with Class A buildings at a around 8.5 percent vacancy rate and Class B at 6.3 percent. Net absorption for Class A and Class B in 2001 is estimated to be 1.7 million square feet. Although landlords are benefiting from rental rates that approach $50 per square foot in some cases, potential tenants are facing stiff competition as they vie for the same space. The limited market is further constrained by the fact that only about 10 percent of the vacancies are for spaces over 50,000 square feet in size. The shortage of space leads some brokers to believe that tenants will continue to look for space at CBD fringe areas such as the Mount Vernon Triangle/ NoMa area.

Total Inventory. The downtown Washington, D.C. office market has strongly rebounded from the early nineties, with a total of nearly 10.4 million square feet of Class A and B office space added from 1995 to the second quarter of 2002. The table below includes all floor space existing or under construction/renovation that is being marketed for immediate or future occupancy.

It reveals that the total inventory has increased in size by around 6.6 million square feet, representing a 6.9 percent increase since 1995.

The relevant sub-markets are the Union Station and East End sub-markets, with Union Station the most relevant to the H Street corridor. While the boundaries of these sub-markets are not definitive, the East End sub-market approximates to the area bounded by 2nd Street, NW on the east, N Street, NW on the north, 15th Street on the west and Constitution Avenue on the south. The Union Station sub-market bound-

EAST END SUB-MARKET

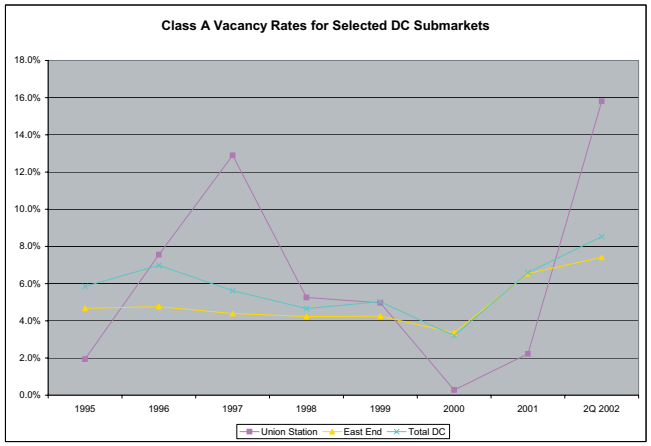


UNION STATION SUB-MARKET

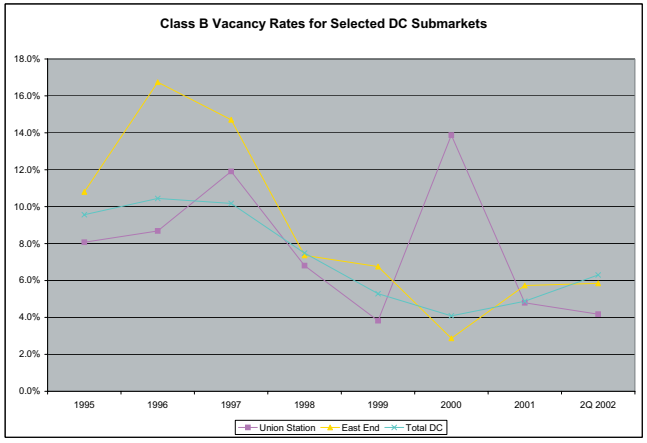
DISTRIBUTION OF OFFICE MARKET SUPPLY BY SUBMARKET, SECOND QUARTER, 2002
Washington, DC

	Total Supply		Vacant Space	
Submarket	**SF**	**% of Total**	**SF**	**% Vacant**
CBD	34,886,518	35%	3,046,740	8.7%
East End	33,098,252	33%	2,262,759	6.8%
Georgetown	2,694,262	3%	213,994	7.9%
Southwest/Southeast	10,848,071	11%	1,072,866	9.9%
Union Station	7,988,319	8%	604,823	7.6%
Uptown	7,236,980	7%	393,202	5.4%
West End	4,329,796	4%	180,435	4.2%
Total District of Columbia	101,082,198	100%	7,774,819	7.7%

Source: Grubb and Ellis Research Services; Economics Research Associates, October 2002.



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics Research Associates



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics Research Associates

aries are 2nd Street on the west, NW, New York Avenue on the north, 3rd Street, NE on the east and Constitution on the South. The Union Station sub-market is sometimes referred to as the Capitol Hill sub-market.

Of the two, the East End sub-market is by far the larger with around 33.1 million square feet compared to 8.0 million in the Union Station sub-market. Both have substantially increased their inventories during the past six years or so, collectively accounting for 71 percent of all new additions in the District during the period. Both the East End and Union Station sub-markets have increased their share of total District inventory during this period.

Vacancy Rates. The charts below present vacancy rate trends for total office space in the District and relevant sub-markets by class of space. The aggregate vacancy rate across the District as a whole is currently around 7.7 percent. This is well below typical stabilized vacancy rates of around 10 percent for office space and suggests significant pent-up demand for space.

As of the first quarter of 2002 the East End sub-market had a somewhat lower vacancy rate of approximately 6.8 percent and the Union Station sub-market at around 7.6 percent. An examination of vacancy rates by class of space reveals that at the District level the rate is currently 8.5 percent for Class A space and 6.3 percent for Class B space. Based on typical stabilized vacancy rates of around 10 percent, we believe that at present throughout Washington, there is an under-supply of approximately 600,000 – 800,000 square feet of Class A space and 1.7 – 1.9 million square feet of Class B space. This represents the gap between the 7.8 million square feet of existing vacant space and that which we would typically expect to find in a market with vacancy at typical stabilized rates.

An examination of Class A vacancy rates by relevant sub-market reveals that the East End rate is well below stabilized rates at around 7.4 percent. The Union Station Class A vacancy rate has increased sharply during the first half of 2002 largely as a result of high vacancy rates in recently constructed space such as 101 Constitution Avenue with a vacancy rate of close to 40 percent.

An analysis of Class B vacancy rates suggests that there is significant pent-up demand for such space in both sub-markets.

Both sub-markets have Class B vacancy rates below five percent with that in Union Station at around four percent.

Under/Oversupply. Under-supply is defined as the quantity of space represented by a vacancy rate of a typical stabilized rate of 10 percent less the space represented by an actual lower rate. Oversupply is defined is that quantity of space represented by an actual rate exceeding 10 percent less 10 percent of the inventory. Based on existing vacancy rates, we estimate that there is currently a net *under-supply* of approximately 480,000 to 510,000 square feet of Class A space in the East End sub-market. There is currently an *oversupply* of approximately 140,000 – 150,000 square feet of class A space in Union Station.

The *undersupply* of Class B space is more marked with existing pent-up demand for approximately 775,000 – 800,000 square feet in both sub-markets combined. The Union Station sub-market accounts for approximately 280,000 – 300,000 square feet of this undersupply.

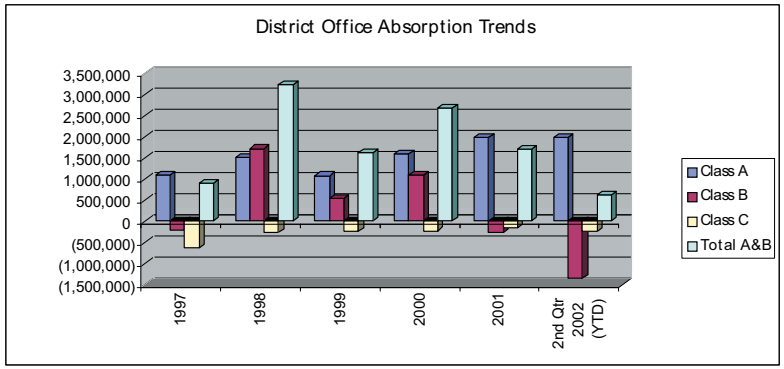
Absorption Trends. Trends in net absorption, that is the changes in occupied building space from one period to the next, are useful in determining the strength of the market and the rate at which space that is placed on the market can be leased. The chart below provides a graphical representation of total absorption trends in the Washington market area since the second quarter of 1998. It shows that downtown office absorption has been generally strong during the past two years, with total absorption positive in all but the third quarter of 1999.

Between 1997 and the second quarter of 2002 there was a total positive net absorption of approximately 9.2 million square feet of Class A space and 1.5 million square feet of Class B space.

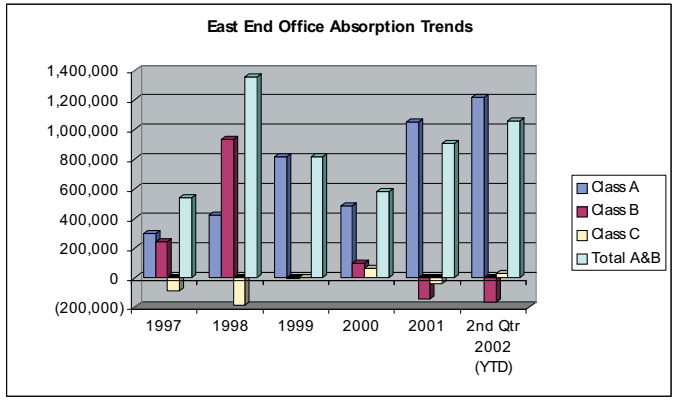
Recent absorption in the two relevant sub-markets has also been strong as illustrated in the charts below. Absorption activity in the East End sub-market has been driven by Class A space largely in the form of new deliveries. Approximately 1.5 million square feet of such space absorbed during the last two years. This compares to negative absorption of around 50,000 square feet of Class B space and 20,000 square feet of Class C absorption. However, this analysis must be placed in the context of the exceedingly low vacancy rate for Class B space at the end of 2000 at around 1.4 percent.

The Union Station sub-market has also witnessed strong absorption activity with around 260,000 square feet of Class A space and 340,000 square feet of class B space during the past two years or so.

The East End and Union Station sub-markets have been driv-



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics Research



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics Research

ing absorption activity in central Washington generally, with Union Station substantially increasing its share

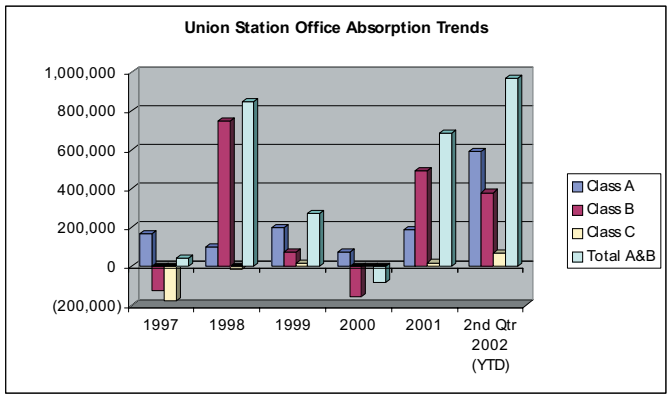
Since 1997, the East End sub-market has captured approximately 49 percent of the total Washington market activity. This has been comprised of 46 percent of the Class A market and 62 percent of the Class B market. The Union Station sub-market has captured approximately 25 percent of the Washington market comprised of 14 percent of the Class A space and around nine percent of the Class B Space.

Construction Activity. Based on Second Quarter 2002 data compiled by Grubb and Ellis, there is approximately 4.6 million square feet of floor space under construction or renovation throughout central Washington in 16 buildings, all due to be delivered by the first quarter 2004. Most of this space will be Class A space with Class B space limited to renovation of Class C space. Approximately 55 percent of this space is pre-leased and included in the inventory discussed above. The remaining 45 percent or 2.1 million square feet is currently available and included in the vacancy statistics.

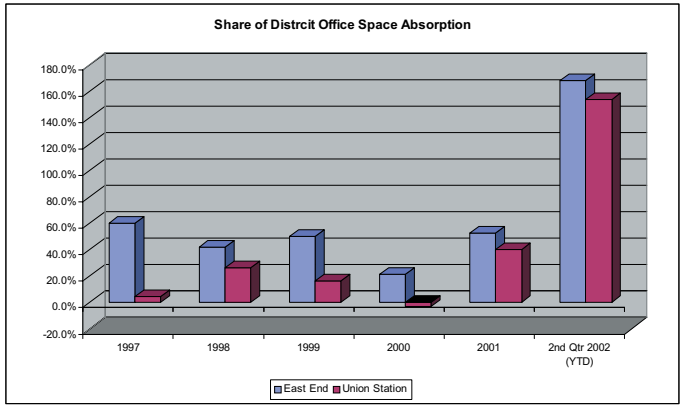
In the East End sub-market there is approximately 1.8 million square feet under construction or renovation in seven different buildings with around 80 percent of the space available. In the Union Station sub-market there is approximately 880,000 square feet in two buildings – Station Place and Union Center Plaza, both of which are pre-leased by tenants which include the SEC.

Implications for H Street Corridor Market Potential

The H Street Corridor has not been the target of significant developer interest for office development during recent years and can be considered a "frontier" market for this use. By this we mean that to date, there has been little or no market support for this use at this location. However, as suitable development sites become more scarce in adjacent sub-markets, we believe the area is capable of capturing a modest share of their market potential. Of course, a major factor in determining the capture rate will be the availability and competitiveness of alternative locations outside the study area such as the Mount Vernon Triangle/NoMa area which has been the recipient of significant recent developer interest, largely as a result of the market implications of the new convention center at Mount Vernon Square and associated development activity. This area has the potential to absorb upwards of 1.5 million square feet of space over the next 10 years. As such, we do not believe that the H Street Corridor will be a strongly competitive Class A office location to the year-10 forecast horizon.



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics



Source: Grubb and Ellis; CB Richard Ellis; Spaulding and Slye; Economics

However, assuming substantial public investment in the corridor, we believe that this area will be capable of capturing a modest quantity of Class B office space from adjacent sub-markets, largely in the form of space to accommodate small professional service uses and selected associations and non-profits not requiring or, with revenues incapable of supporting, a downtown location. New office workers in the corridor will represent an additional source of daytime and evening market support for retail uses and as such, the expenditures of new office workers have been utilized in the development of the retail potentials presented later in this report. Our forecasts for office market potential are presented at the end of this section.

Apartment Residential Market Analysis

As with the office market analysis above, the H Street corridor does not lie within an actively developing multiple unit housing market area. In order to determine the absorption potential for this use, we have conducted an analysis of the market fundamentals in both the District and the nearest actively developing area namely, the Downtown/Logan sub-market. This area lies immediately to the west of the H Street corridor planning area and extends from approximately North Capitol Street to Connecticut Avenue, NW and Constitution Avenue to Q Street. We have examined data for the Capitol Hill/Southwest sub-market and have determined that this area has not witnessed significant new apartment development activity during recent years.

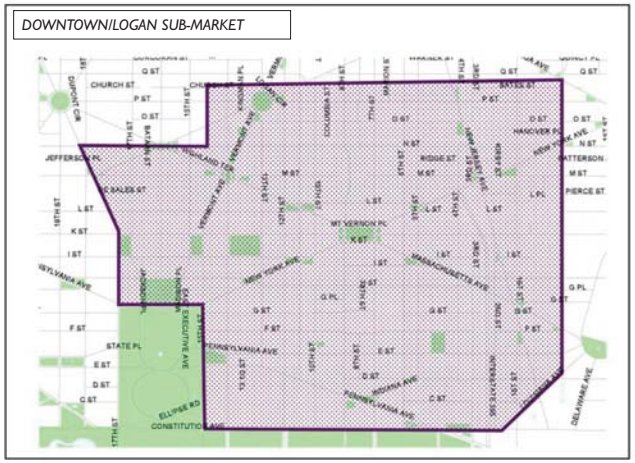
We have focused on the potential rental apartment units for several reasons which can be summarized as follows:

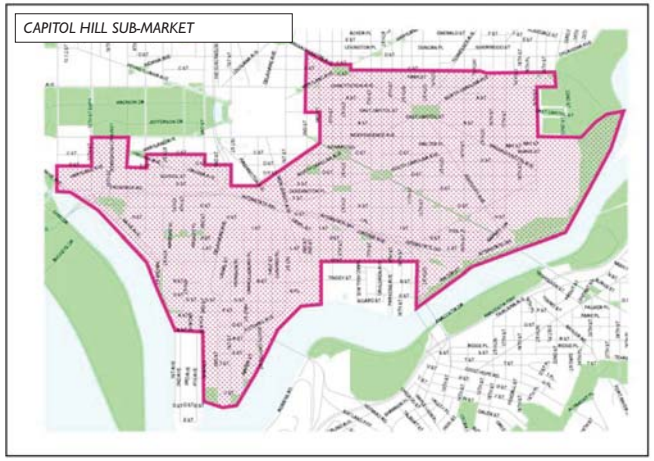
1. The recent increased activity in condominium development is closely linked to interest rates. Extremely low rates have largely been responsible for accelerating owner occupied multiple unit (condominium) development activity in Washington and other major markets during recent years. Such rates narrow the gap between the costs of owning and renting. Many householders that might otherwise have rented a unit are able to afford a condo due to low interest rates. Because rates are at historical lows, it is unlikely that rates will remain at the present levels for long and the condominium market may cool down considerably District-wide.
2. The development economics of multiple unit residential development are such that rental units are less risky for developers than condominiums, particularly in emerging areas such as the H Street corridor. The operating characteristics of apartment buildings are such that units can be leased up at lower initial rates without damaging the long-term profitability of the project. Condominium developments require rapid sales at prices capable of offsetting development costs.
3. Existing development activity and market momentum are usually required to attract developer interest due to the development costs and risks associated with this use.
4. Most condominium projects that have been developed in the District during recent years have been located close to either existing or proposed Metro rail stations that can assist in marketing the projects and reduce developer risk.
5. The corridor does not contain a strong base of existing buildings that are attractive, capable of conversion to condominium use, and marketed at prices capable of offsetting development costs.

As a result of the combination of these factors, we believe that residential development to the forecast horizon in the H Street corridor will be driven by demand for rental apartment units. Nevertheless, we do recognize that the area does have the potential to attract some condominium development particularly as the area stabilizes and emerges as a more desirable residential location. We have therefore included this unit type in our analysis and developed estimates for the likely increment over and above the rental unit potential.

Sub-regional and District Multiple Unit Demand Forecasts

- The District is part of a wider apartment market that

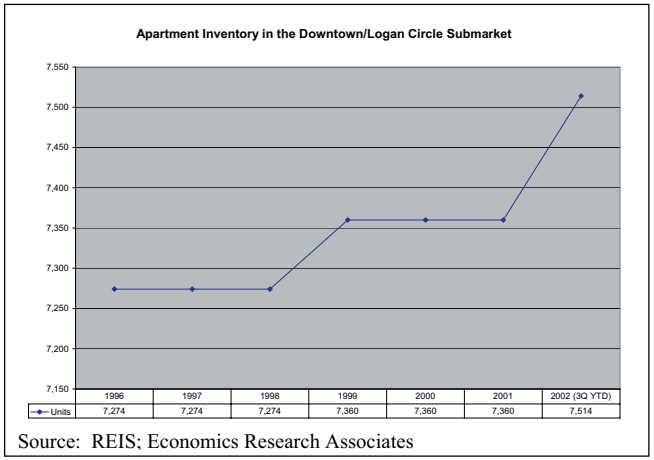




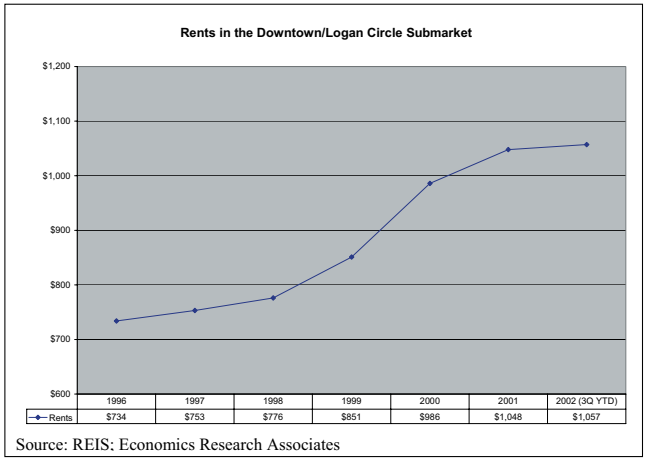
Rental Apartment Unit Demand Forecast, District of Columbia and Sub-Region 2002 - 2012

Area	2002 Units	2002 Share of Sub-Region	2012 Units	2012 Share of Sub-Region	2002 - 2012 Change Units	2002 - 2012 Change Percent
District of Columbia	84,500	20.4%	96,500	21.2%	12,000	14.2%
Sub-Region (District of Columbia, Alexandria and Arlington, Fairfax, Montgomery and Prince George's Counties)	415,000	100%	455,000	100%	40,000	9.6%

Source:CACI; MW COG; Economics Research Associates, January 2002.



Source: REIS; Economics Research Associates



Source: REIS; Economics Research Associates

includes the inner suburbs of Arlington and Alexandria and, Fairfax, Montgomery and Prince George's County.

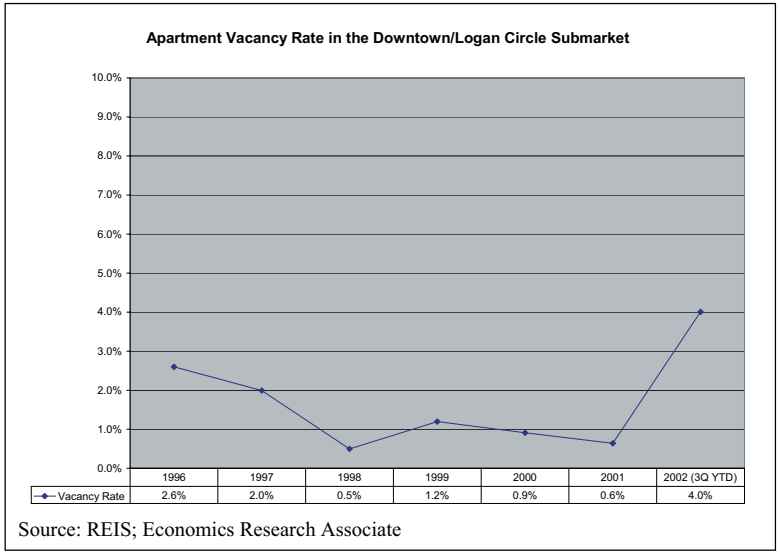
- The apartment market potential in the District depends on the extent to which it can effectively compete with these suburbs for multiple unit residents.
- The regional economic overview analysis above suggests that continued strong private and public sector investment in the District is resulting in solid economic and population growth and is increasing its competitiveness in the sub-regional marketplace. We anticipate that this trend will continue during the next five to ten years.
- We estimate that there are currently around 84,500 apartment units in the District of Columbia and a vacancy rate of two percent, well below typical stabilized rates of between 3 and 5 percent.
- At present, we believe that there is sufficient pent-up demand to support between 1,800 and 2,300 additional apartment units in the District. This does not represent the market potential. Rather it represents the quantity of additional units that can be supported by the market now while maintaining vacancy rates at acceptable stabilized levels.
- Assuming that the existing mix of single family versus multiple family units remains constant, population growth in the sub-region should generate demand for approximately 40,000 additional multiple family units for the ten-year period to 2012. This is based on the ratio between the resident population and the total housing stock.
- Currently the District's share of the sub-regional apartment market is around 20 percent. We believe that the increased competitiveness of the District could result in it capturing approximately 30 percent of the incremental increase in sub-regional demand over the next ten years.
- Based on our analysis of District Marketing Center data, during the last two years approximately 2,500 rental multiple family residential units have been constructed in the District with another 3,200 under construction for delivery over the next two years or so. Approximately 200 of those units are indicated as ownership (condominium) units or around 6.5 percent of the total.
- We therefore estimate that the ten-year incremental demand potential in the District is around 12,000 units. We would emphasize that these forecasts are for market support rather than development potential. Achieving such forecasts will be dependent on site availability, land costs, development regulations and other constraining factors.
- These demand forecasts, coupled with existing pent-up demand in the District, suggest that there exists sufficient demand to support an additional 13,800 – 14,300 additional units to the year 2012.

Market Analysis – Downtown/Logan Circle Submarket

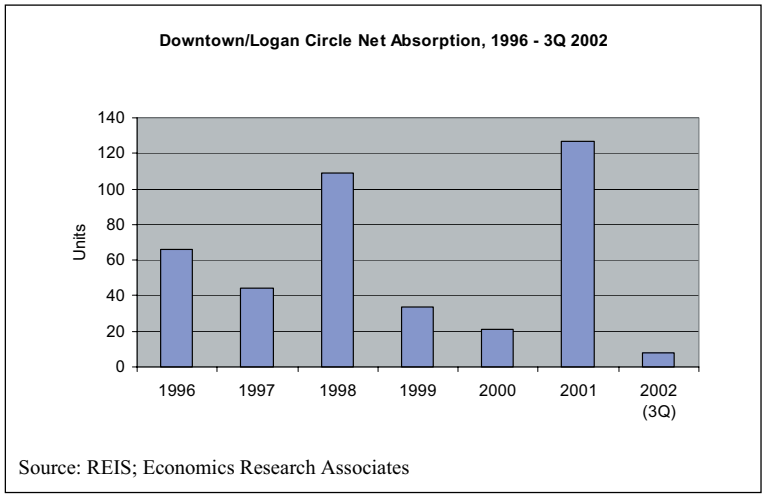
We have conducted an analysis of the Downtown/Logan Circle sub-market in order to generate estimates for the magnitude of the market potential for rental apartment units. The following provides an overview of the key market indicators together with forecast estimates for market capture to the 2012 planning horizon.

Inventory

- There are currently approximately 7,460 rental apartment units in the Downtown/ Logan Circle sub-market.
- This sub-market accounts for approximately nine percent of the total apartment inventory in the District.
- Based on our analysis of DC Marketing Center data, the sub-market has attracted considerable developer interest during the previous two years with approximately 420 new units added to the inventory with approximately 2,000 either under construction or proposed. All of these proposed units are anticipated to come on the market during the next two years.



Source: REIS; Economics Research Associate



Source: REIS; Economics Research Associates

Rents

- Our analysis of apartment rental rates in the sub-market reveal solid and accelerating rent growth during the five year period between 1996 and 2002. While rent growth has slowed since the end of 2000, rents remain healthy.
- Average unit rents have increased from around $730 in 1996 to $1,070 in 2002. This represents average annual rent growth of around seven percent far exceeding that which can be attributed to inflationary pressures of between two and three percent.

We anticipate that rents will remain strong with real rent growth of upwards of four percent during the short term.

Vacancy Rates

- The Downtown/Logan Circle apartment market is currently experiencing vacancy rates of around four percent, which is slightly higher than the District-wide rate of around three percent.
- Vacancy rates have increased from around one half of one percent during 2001, but remain within typical stabilized rates of between three and five percent.

Net Absorption

- The chart below reveals that absorption in the Downtown/Logan Circle sub-market has been positive during the five-year period since 1996.
- A comparison of absorption, inventory growth and vacancy reveals that demand has been sufficient to support supply growth while maintaining low vacancy rates.

Downtown/Logan Circle Sub-market Market Potential Forecast

- The Sub-market currently comprises approximately nine percent of the District apartment market which, as presented above, we estimate is capable of supporting between 13,800 and 14,300 additional units during the next ten years.
- Based on recent development activity, we believe that the sub-market is capable of capturing between 40 and 45 percent of District demand during the next ten years. This translates to approximately 5,500 – 6,400 units to the year 2012. Excluding the units currently under construction for imminent delivery to the marketplace, the net market potential is between 3,500 – 4,400 units.

Condominium Market Potential

We have conducted an overview analysis of the potential for condominium units in the H Street Corridor. As noted above, we believe multiple unit residential activity in the corridor will be driven by demand for rental units rather than condominium units for the reasons outlined. However, we recognize that the corridor might attract a modest amount of such development during the next ten years.

Based on data supplied by the District Marketing Center, we estimate that approximately ten percent of the multiple unit residential units that have either been completed during the last two years or units under construction in the Downtown/Logan sub-market are condominium units. Evidence of the potential for condominiums in the Capitol Hill sub-market can be found in recent developer interest in several projects including two school conversions and Kentucky Court, with a total of around 160 units under construction. We therefore estimate that approximately 50 – 100 units could be supported by the market, although as previously noted, this will largely depend on interest rates and developer perception of project risk.

Implications for H Street Corridor Residential Market Potential

The future potential of the H street corridor for multiple unit development will be dependent on its ability to effectively compete with established active markets in the District and emerging markets such as NoMa. Additionally, the corridor will have to compete with other proximate areas that will benefit from substantial public investment such as the area around the New York Avenue metro station which will be completed in 2004. However, as with office development, we believe that this area will be capable of attracting apartment developer interest as prime sites in established markets become more scarce. We believe that the area could be capable of capturing around 15 percent of the future market potential of the Downtown/Logan sub-market.

Supportable Estimates of Office Space and Apartment Units: 2002 - 2012

Objective

- To estimate a reasonable "envelope" of supportable development over the next ten years.

Methodology

- Determine the existing market share of the corridor for

Land Use Planning Targets, H Street Corridor, 2002 - 2012

	Office	Rental Apartment
District market demand (2002-2012)	**11,600,000**	**14,000**
Estimated Class B Office Market Share:		
East End	60%	N/A
Union Station	10%	N/A
Estimated Multi-Family Market Share:		
Downtown/Logan	N/A	45%
Estimated Adjacent Market Potential		
East End	6,960,000	N/A
Union Station	1,160,000	N/A
Downtown/Logan	N/A	6,300
Less Available Commited Space/Units	1,400,000	2,000
Net Sub-Market Market Potential	6,720,000	4,300
Corridor Capture of Adjacent Submarket Potential	2.5%	15%
Corridor Demand Potential (2002-2012)	**168,000**	**645**
Ave. FAR	**2.0**	**3.0**
Land required (Acres)	**1.9**	**4.9**
New Employees/Residents	**670**	**970**

Source: MWCOG; REIS; Grubb and Ellis; Economics Research Associates

the various uses in the District

- Develop reasonable expectations for regional demand over the next 10 years
- Determine the District share of regional demand growth potential
- Assess the competitiveness of the corridor today and the quantity of recent development activity that adjacent sub-markets are capturing
- Forecast the competitiveness of the corridor in the future
- Estimate the quantity of supportable development by land use

The table provided herein presents a summary of the findings of the market analysis and estimates of net new supportable space and units in the corridor over the next ten years or so. The preliminary planning targets are intended to help illustrate the redevelopment potential. In preparing land use and development plans for the corridor, it is important that aggregate totals of development for each land use do not substantially exceed that which is capable of being supported by the market. The planning targets are therefore intended to act as a reasonable envelope of supportable development.

Retail Market Analysis

Introduction and Methodology

ERA has examined the market supportable retail potential for the H Street Corridor. We have developed estimates for retail space potentials by major retail category under three scenarios:

Existing Conditions and Productivity Rates (2002). The purpose of this scenario is to illustrate the quantity of space that is capable of being supported by the market under existing conditions and what are reported to be typical rent levels for retail space in the H Street Corridor. This scenario assumes the existing mix of retail uses, resident and worker expenditure potentials and productivity rates which have been adjusted to reflect existing market conditions in the corridor. ERA notes that the lower-than-market rental rate averages (which range from approximately $8 to $12 per square foot) do not represent the level of sales or rental revenue that would warrant significant investment in H Street's retail commercial structures. In other words, many of the current retail tenants can be considered to be under-performing according to industry standards.

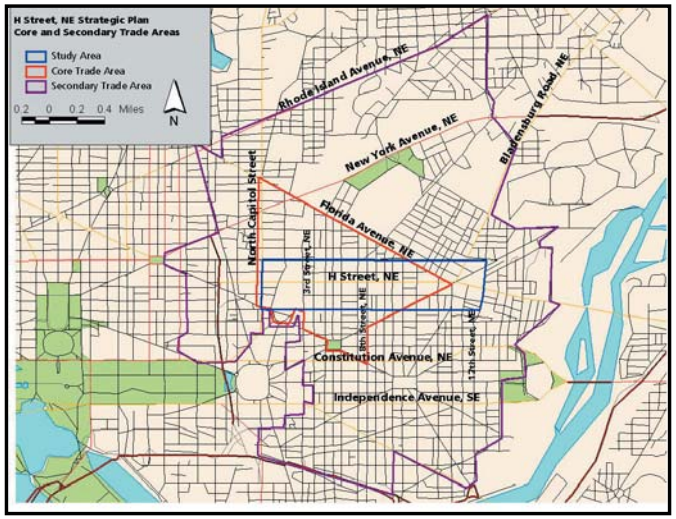
Another way to express our evaluation of current conditions is that (like many older commercial districts), H Street has a segment of retailers that would be considered marginal operations in more competitive environments. The total square footage of 'supportable space' under this scenario is therefore an illustrative amount, since the project's goal is to upgrade both the amount and quality of H Street's retail offerings.

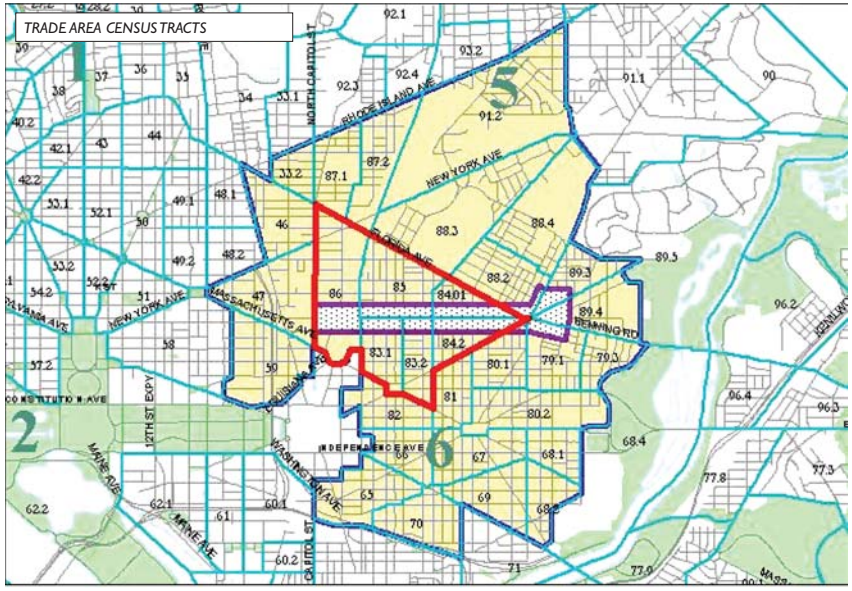
Existing Conditions and Investment Productivity Rates (2002). This scenario is intended to illustrate the impact of increasing the productivity rates on the quantity of space capable of being supported by the market. Since the increases in the expenditure base identified below will occur gradually over a period of ten years, this scenario represents the baseline estimate for the strategic repositioning of the corridor. It also assumes existing retail mix and resident and worker expenditure base. However, while the quantity of supportable space will be lower than in the above scenario, the higher productivity rates will produce higher sales volume and hence achievable rents. Such rents could support private sector investment in the retail commercial structures in the corridor at competitive locations. Surplus marginal space could be identified for land use succession. However, in order to determine the quantity of supportable space as an input to the ten year planning strategy for the corridor, we must examine the future growth potential of the expenditure base.

Future Conditions and Investment Productivity Rates (2012). This represents the forecast of supportable retail space based on increases in the expenditure potential and achievable capture rates. The expenditure base increases as a result of new residents and workers in and adjacent to the trade area and, changes in the demographic composition and income levels of the trade area residents. These estimates of supportable space reflect changes in the competitive image of the corridor, mix of retail offerings and increased market penetration.

ERA's intent in this analysis was to define a reasonable estimate of supportable space for a retail program comprised of the following major retail categories:

- General Merchandise, Apparel and Accessories, Furniture/Home Furnishings and Other (GAFO) – *General Merchandise* includes merchandise typically associated with department stores and specialty retailers. *Apparel and Accessories* includes women's, men's and children's apparel, jewelry and footwear. *Furniture* and Home Furnishings includes textiles, furniture, floor





coverings, major appliances, housewares, miscellaneous household equipment and consumer electronics. The *Other* (Miscellaneous Retail) category includes all other retail merchandise not categorized as above (e.g. television and sound equipment, pets/pet supplies, toys and playground equipment, other entertainment supplies and books).

- Convenience – includes items typically sold at a supermarket including cold prepared and unprepared food products primarily for consumption at home, personal care products, non-prescription drugs, alcoholic beverages for consumption at home and newspapers/magazines.
- Eating and Drinking – includes both table-service restaurants as well as fast food operations purchased away from the home and retail liquor sales.

The retail market potential of the planning area is established by examining the expenditure potential generated from two major sources: expenditures of residents in the primary and secondary trade areas and customers that have been calculated as an "inflow" factor. The estimated market share is based upon the evaluation of several economic factors: the strength and mix of retailing within the trade area, the proximity of other retailing centers to the trade areas, and the economic characteristics of the residents of the area.

Trade Area Delineation

The primary and secondary trade areas for the subject site represents the geographical area from which the majority of customer sales are generated on a sustained basis. The trade areas have been delineated based on a variety of economic and market factors, including base census geographies, access and driving times, competitive locational patterns and population distribution and density characteristics.

These trade area definitions consider the Corridor's locational characteristics, including access and visibility; market competition facing existing retailers along the H Street Corridor; and the existing mix and quality of retail offerings in the corridor. ERA has defined the primary trade area as the area comprised of the six census tracts that border H Street, NE. Subject tracts are shown in Figure 1 and generally defined below.

- Tract 83.1 is bounded by H Street, NE on the north side, 2nd Street, NE on the west, Massachusetts Avenue, NE on the south, and 6th Street, NE on the east.
- Tract 83.2 is bounded by H Street, NE on the north side, 6th Street, NE on the west, Massachusetts Avenue, NE on the south, and 8th Street, NE on the east.
- Tract 84.2 is bounded by H Street, NE on the north side, 8th Street, NE on the west, and Maryland Avenue, NE on the south.
- Tract 84.1 is bounded by Florida and West Virginia Avenues, NE on the north side, 8th Street, NE on the west, and H Street, NE on the south.
- Tract 85 is bounded by Florida Avenue, NE on the north side, 2nd Street, NE on the west, H Street, NE on the south, and 8th Street, NE on the east.
- Tract 86 is bounded by Florida Avenue, NE on the north side, North Capitol Street, NE on the west, Massachusetts Avenue, NE on the south, and 2nd Street, NE on the east.

The secondary trade area is the area comprised of the 25 additional census tracts within approximately 1.5 miles of the H Street, NE corridor. Also shown in Figure 1, the

H Street Corridor Study: Retail Market Analysis

Trade Area Households, 2002 - 2012

Trade Area	2002	2012	2002-2012 Change	2000-2012 % Change
Primary	4,801	5,518	717	14.93%
Secondary	28,684	31,684	3,000	10.46%

Source: CACI; Economics Research Associates, October 2002.

Trade Area Average and Total Household Income, 2002 - 2012

Variable/Trade Area	2002	2012	2002-2012 Change	2000-2012 % Change
Average Household Income:				
Primary	$ 64,205	$ 67,480	$3,274	5.10%
Secondary	$ 61,932	$ 63,790	$1,858	3.00%
Total Household Income:				
Primary	$308,249,804	$372,329,694	$64,079,890	20.79%
Secondary	$1,776,452,340	$2,021,115,235	$244,662,896	13.77%
Total	**$2,084,702,143**	**$2,393,444,929**	**$308,742,786**	**14.81%**

Source: US Census Bureau; Economics Research Associates

Resident Retail Expenditures by Major Retail Category

Trade Area/Retail Category	Total Resident Retail Expenditures 2002	2012
Primary		
GAFO	$62,270,000	$66,193,909
Convenience	$26,018,590	$43,955,089
Meals and Beverages	$5,439,120	$16,788,330
Sub-Total	**$93,727,710**	**$126,937,329**
Secondary		
GAFO	$326,690,000	$342,876,397
Convenience	$103,629,780	$157,907,605
Meals and Beverages	$5,037,720	$38,362,899
Sub-Total	**$435,357,500**	**$539,146,902**

Source: Claritas Inc., US Census Bureau; Economics Research Associates

Existing Supportable Employee Supported Space: 2002

Variable	Employees	Expenditures Per Employee	Corridor Capture Rate	Total Expenditures	Supportable Space: Low Productivity	Supportable Space: High Productivity
Office	1,420	$2,500	50%	$1,775,000	N/A	N/A
Retail	9,952	$1,200	70%	$8,359,680	N/A	N/A
Industrial	739	$1,000	70%	$517,300	N/A	N/A
TCPU	1,093	$1,000	70%	$765,100	N/A	N/A
Government	1,765	$2,000	60%	$2,118,000	N/A	N/A
Total Expenditures	**14,969**	**-**	**-**	**$13,535,080**	N/A	N/A
Distribution by Category:						
GAFO	N/A	10%	N/A	$1,353,508	10,828	5,414
Convenience	N/A	20%	N/A	$2,707,016	19,336	9,668
Eating and Drinking	N/A	70%	N/A	$9,474,556	54,140	27,070
Total	N/A	**100%**	N/A	**$13,535,080**	**84,304**	**42,152**

Source: CACI; Economics Research Associates

secondary trade area is generally bounded by Rhode Island Avenue on the north, 6th Street, NW on the west, the Southeast/Southwest Freeway on the south, and Bladensburg Road on the east.

Trade Area Demographics

Demographic factors such as the number and size of households, average household income and total household income provide the basis for estimating the retail expenditure potential for the trade areas and subsequently, sales potential for the H Street Corridor. Those economic indices are discussed in the following sections with additional supporting data presented at the end of this Appendix.

Households and Household Size and Projections

For the purpose of this analysis, ERA uses households as the consumer unit to estimate retail expenditure potentials. The table below presents 2002 and 2012 estimates for the number and size of households in the two trade areas.

The table illustrates that the number of households are forecast to increase significantly to the year 2012. By 2012, the primary trade area is forecast to contain approximately 5,500 households, an increase of around 15.3 percent over current levels as a result of the potential multiple unit development in the corridor identified above. Households in the secondary area are forecast to increase by approximately 10.5 percent to around 32,000 by 2012. Growth in this trade area will be driven by new residential development in NoMa and the area around the new metro station at the intersection of New York and Florida Avenues.

Household Income and Projections

A key factor in determining the amount of dollars available within a given market for retail spending is total household income. This is the most important single determinant of the amount that the individual households can spend for retail purchases. The table below presents average household income and total household income and projections for the primary and secondary trade areas and forecasts for the period between 2002 and 2012. All values are in current, uninflated dollars.

Average Household Income

The table reveals that average household income levels are currently marginally higher in the primary trade area within which income levels are projected to grow at the fastest rate to the year 2012. The projections are based on an assumed changed in the demographic characteristics of residents in the area as a result of new public investment and the increased competitiveness of the area as a residential location. In developing the forecasts, we examined the income characteristics of the U Street corridor as a benchmark for potential demographic changes in the primary trade area. Average household income is also expected to increase in the secondary trade area as a result of planning and public initiatives in areas such as NoMa and the Florida/New York Avenue area.

Total Household Income (THI)

THI has been calculated by multiplying the total number of households by the average household income. The resulting figure represents the total amount of income present within the trade area, a portion of which is expended on retail goods. It is from THI that retail expenditure potentials are projected. THI is projected to increase significantly in both trade areas between 2002 and 2012, in part driven by the construction of new homes. By 2012, the combined THI for both trade areas will be around $2.4 billion.

Trade Area Resident Expenditure Potential

Total retail expenditure potential for 2002 and 2012 is set out in the table below. Retail expenditure potential is derived by comparing current estimates for total retail expenditures in each trade area to total household income. The proportion of household income that can be attributed to expenditures on the retail categories reflect both existing expenditure patterns and anticipated changes in the demographics. In this way forecasts can be developed for 2012 based on projected total household income for both trade areas.

The middle table on the left reveals that the sales potentials of both trade areas are forecast to increase substantially over the next ten years as a result of income and household growth. In both the primary trade area and secondary trade areas, growth will likely be greatest in the convenience and eating and drinking categories driven by increased disposable income. As income increases, expenditure growth is greatest in discretionary expenditures such as dining out and convenience expenditures locally due to time constraints of higher income individuals.

H Street Corridor Retail Supportable Retail space Estimates: 2002 - 2012

The share of total sales potential that the corridor is capable

Summary of Supportable Retail Space: 2002 - 2012
(Square Feet)

	2002		2012
Retail Category	Low Productivity	High Productivity	High Productivity (1)
GAFO *(2)*	181,000	91,000	160,000
Convenience *(3)*	108,000	54,000	94,000
Meals and Beverages	64,000	32,000	49,000
Total (4)	**353,000**	**177,000**	**303,000**

(1) Based on 2002 Mid-Atlantic sales per square foot averages from International Council of Shopping Centers' Monthly Mall Merchandise Index.

(2) General merchandise includes general merchandise stores, apparel stores, and furniture stores.

(3) Convenience includes groceries, personal services, stationery, drugs/sundries, books and magazines,and tobacco.

(4) Includes space supported by new workers and residents

Source: Claritas Inc.; Economics Research Associates, October 2002.

of capturing is dependent on many factors including: the type, tenant mix and quality level of the stores, the availability of parking, and the appeal and effectiveness of competing facilities in the market. The following represents our analysis of such factors and an assessment of the sales potential of the corridor. Appendix B contains supporting data utilized in the analysis.

Competitive Framework

An examination of the competitive retail environment reveals significant competition within the primary and secondary trade areas and beyond elsewhere in the District, Northern Virginia and Prince George's County. Examples include concentrations at Union Station, Hechinger Mall, Capital Hill and the new shopping center on Rhode Island Avenue containing a Giant Foods supermarket and a Home Depot home improvement store. The overlapping trade areas of other proximate retail concentrations will limit the potential retail capture in both the primary and secondary trade areas. We believe that market capture rates in the secondary trade area will be lower than those in the primary trade area due to both distance from the corridor and the existence of significant competing concentrations primarily to the north, east in Prince George's County, west in downtown Washington and potential retail development in NoMa

Resident Sales Capture

Capture rates shown in the primary trade area for the various goods categories reflects existing nearby competition both within and adjacent to the trade area as described above. The lower capture rates in the secondary trade area for all categories analyzed reflect the distance from the corridor and nearby established competition. We have applied higher capture rates to the 2012 scenario based on the assumption that the area will be more competitive as a retail location at that time as a result of the increased expenditure base of residents and, public and private sector investment in the corridor.

Existing Worker Supported Space Estimates

At present, there are approximately 15,000 workers in the corridor. The expenditures of these workers contribute to the support for retail uses in the corridor. We estimate that at present the workers in the primary trade area spend approximately $13.5 million in the corridor annually. This is capable of supporting approximately 42,100 square feet of retail space. Of this space, around 27,000 square feet falls in the eating and drinking category.

Inflow

H Street is a major, heavily trafficked arterial with approximate average daily trip estimates of 24,000 cars. As such, we believe retail uses along the corridor are capable of capturing a significant proportion of their total retail sales from customers who reside outside the trade area. Again, we have applied higher inflow rates to the 2012 forecast due to the increase in the resident and worker expenditure base and the improved competitive image of the corridor as a result of public and private investment in the corridor during the next ten years. The impact of higher inflow rates will be an increase in the total expenditure base and therefore supportable space in the corridor.

Supportable Space and Composition

Supportable space is a function of total sales potential divided by average sales productivity rates per square foot for each major retail category. The chart below provides a breakdown of the supportable size of all three retail categories and existing and future sales productivity and investment scenarios.

For the existing, low productivity scenario, we have utilized sales productivity rates of between $125 per square foot for GAFO stores and $175 for eating and drinking establishments. Based on an existing retail inventory of approximately 370,000 square feet, the results of the analysis indicate that at present, the retail uses in the corridor are achieving similar sales productivity rates as reflected in the high levels of vacant and marginal space and current achievable rents of between $8 - $12 per square foot.

As previously noted, we do not believe that such rents warrant significant private investment in the retail building structures along H Street. In other words, the retail businesses along H Street are under-performing according to industry standards. Since improving the quality of the urban fabric along H Street is a central goal of the planning effort, the supportable square footage indicated in this scenario should be viewed in conjunction with that indicated in the existing, high productivity scenario. This illustrates the gap between existing space estimates and those capable of achieving rents at a level that can support private investment in the corridor.

In the existing, high productivity "investment" scenario, we have assumed industry standard sales volumes of between $250 for GAFO businesses and $350 per square foot for eating and drinking establishments. The resultant supportable space estimate is approximately half that which currently exists in the corridor. We therefore believe that in order to

attract private investment in retail uses in the corridor today and improve the quality of the retail space, substantial public investment would likely be required together with across-the-board reductions in the quantity of space. However, such an approach would be inconsistent with the District's goals of retention and enhancement of the retail tax base of the District and reversing expenditure leakage to the suburbs based on the continued resurgence of the District economy. The objective is to increase competitiveness of retail areas in developing land use strategies that incorporate an appropriate mix and quantity of retail space. Given the medium to long-term nature of approaches to urban revitalization, we must examine future growth potentials to determine the ultimate "envelope" of supportable space as an input to a ten year planning strategy for the area.

The estimated 2012 supportable space forecast also assumes industry standard productivity rates. The results clearly illustrate the impact of public improvements in the corridor, additional residential and office development and, changes in the demographic composition of residents in the trade areas. Household income growth reflective of that which has occurred along U Street coupled with additional office and retail workers should be capable of supporting approximately 300,000 – 310,000 square feet of space by 2012. While we should emphasize that this forecast is an estimate, it represents a 70 – 75 percent increase of the quantity of space that can be supported in the corridor while also attracting private investment in the structures.

Implications of Potential Cultural and Entertainment Facilities

ERA also reviewed the impact of entertainment/cultural facilities on retail potential along the H Street Corridor. At present, two theater projects are under development or in early stages of operations. The most ambitious project is the Atlas Theater, which has been proposed to include two smaller theaters for live performances; one is to include 150 seats, while the larger theater would include up to 250 seats. The other is the H Street Theater, which includes 150 seats. Theaters and other cultural venues do create traffic for retail corridors, and are particularly supportive of generated business for food and beverage establishments (cafes, table service restaurants, coffee and liquor bars designed to serve the tastes and expenditure potentials of theater patrons), and draw visitors to the area during the evenings when many traditional retail stores have closed. However, ERA points out that, while the cultural venues are a critical and very positive addition to the H Street mix, the impact on supportable retail is more modest. Issues such as the total number of theater attendees and the popularity of the venue in drawing numbers of patrons would have a major effect on how much additional retail demand is created.

For example, if the 550 seats in the two theaters are programmed to have performances on 100 nights per year and were 75 percent occupied (a very successful attendance rate for non-commercial theater), and using a capture rate of 20 percent (the percentage of all food and beverage expenditures available anywhere to theater goers which might be 'captured' by restaurants along H Street) the total amount of retail supported would be less than 500 square feet of space (assuming an average expenditure of $15 per person). Even if the number of performance nights, the capture rate, and the expenditure levels were doubled, the theaters would still only support about 2,500 square feet of space.

This is not to discount the importance of attracting theater patrons to H Street in the evenings; the theaters would be very positive activating uses for the area. But it should be noted that the economic spin-off for restaurants is not strong enough to solely generate enough business to carry the required investment and operating costs for a food and beverage location; they constitute a very good complement to other markets, but the other markets are critical if the restaurants are to be economically feasible.

Implications of Development on Large Sites at Both Ends of the Corridor

Part of the planning and economic viability issues for H Street concerns the potential and impact of the large sites at the ends of the corridor – the Hechinger site and the proposed air rights development at Union Station, Station Place. A number of stakeholders at the Design Charrette suggested that it would be beneficial to the area (and would provide missing product lines and values) if one or more 'Big Box' retailers (large format retail stores selling a large assortment of consumer products such as electronics, linens and housewares, or other lines; examples include stores such as Target or Best Buy) could be recruited to a location along H Street. ERA reviewed preliminary plans for Station Place as well as discussed the build-out potential for the Hechinger site. After consideration of both sites, ERA concluded the following:

- Introduction of a Big Box retailer (55,000 to 80,000 square feet) would require either that the store be constructed on two levels (no longer considered an impossibility by national chains, but more costly to operate than conventional suburban sites and far from common in the industry) and/or that structured parking would be required to support the needed number of spaces (also a higher than usual cost, if compared to suburban sites).
- The market impact on H Street corridor retailers would be indirect rather than direct for either location. Because of the prevailing pedestrian shopper behaviors (consumers are reluctant to walk more than 1,200 to 1,500 feet as part of a shopping experience), neither site would comfortably be a 'walk-to' location from the proposed Main Street core area along the central portion of H Street. It is more likely that the introduction of one or more Big Box retailers at the eastern or western end of the corridor would help in recapturing a large share of District-based expenditures which are currently 'leaking' out of the District to these types of stores in Northern Virginia (particularly to the Potomac Yards 'Big Box' mall near Alexandria on Route 1) or to stores located in Prince Georges County. Recapturing these 'lost' expenditures would also increase pass through traffic along H Street as they would generate what the retail industry calls "inflow", defined as a retail use that is a strong enough destination that customers will seek it/them out and are willing to travel further than the distance that the more proximate markets (motivated by convenience) would be willing to go.

These recovered sales, largely from District of Columbia residents from Capitol Hill and other neighborhoods in NE and NW Washington, would attract more people driving to the destination Big Box stores along the H Street corridor, increasing the level of exposure for locally owned and Mom-and-Pop businesses located in the more pedestrian-oriented central portion of H Street. While it may be argued that destination retailers may not generate sales in specialty shops and restaurants on the same trip as their Big Box visit, the exposure could foster another shopping trip later as more and more customers become familiar with the H Street corridor. Therefore, the benefits of introducing/recruiting Big Box retailers to H Street is less direct, but would build customer traffic from other parts of the area which would be less likely to come to H Street at all without the Big Box destinations.

With regard to the potential linkage between the central pedestrian retail zone of the Corridor with the Station Place project, ERA is concerned that the walking distance inside the project from central H Street, combined with the grade change up the Bridge from the street level below, will act as discouragements to the expectation of an easy flow of pedestrian shoppers between Station Place and the central (most active, pedestrian oriented) core of the H Street corridor.

Appendix Table 1
Demographic Profile, 1990-2000
Core Trade Area

	83.1			83.2			84.2			84.1			85		
	1990	2000	Change	1990	2000	Change	1990	2000	Change	1990	2000	Change	1990	2000	Change
Population	2,346	2,243	-4%	1,964	1,956	0%	2,763	2,139	-23%	1,714	1,506	-12%	3,666	3,209	-12%
Households	1,078	1,162	8%	830	885	7%	1,080	1,114	3%	540	499	-8%	1,178	1,129	-4%
Family Households	378	383	1%	354	346	-2%	389	342	-12%	353	327	-7%	733	673	-8%
Percentage Family Households	35%	33%	-	43%	39%	-	36%	31%	-	65%	66%	-	62%	60%	-
Average Household Size	N/A	1.92	-	N/A	2.08	-	-	1.84	-	-	2.95	-	-	2.81	-
Race															
White	57%	60%	0%	54%	55%	3%	21%	22%	-17%	4%	4%	-29%	5%	5%	-15%
Black	41%	34%	-20%	45%	40%	-10%	77%	71%	-29%	95%	92%	-15%	93%	92%	-14%
American Indian, Eskimo, Aleut	0%	0%	50%	0%	0%	-67%	0%	0%	-9%	0%	0%	400%	0%	0%	-38%
Asian or Pacific Islander	1%	3%	89%	1%	2%	88%	1%	2%	40%	0%	1%	60%	1%	1%	9%
Other	1%	1%	69%	1%	1%	36%	1%	1%	13%	1%	2%	145%	1%	1%	8%
Hispanic Origin	2%	3%	45%	2%	3%	25%	2%	3%	0%	2%	3%	50%	2%	3%	29%
Population Age < 18	11%	10%	-13%	13%	13%	3%	10%	14%	6%	23%	26%	-1%	22%	26%	3%
Population Age 65+	10%	8%	-25%	9%	12%	30%	15%	17%	-14%	14%	14%	-15%	14%	13%	-16%
Male	48%	52%	4%	52%	51%	-3%	55%	45%	-36%	47%	48%	-9%	50%	48%	-16%
Female	52%	48%	-12%	48%	49%	2%	45%	55%	-6%	53%	52%	-15%	50%	52%	-9%
Income															
Median Household Income	43,298	66,550	54%	45,357	67,868	50%	23,696	31,484	33%	35,156	43,333	23%	27,708	35,225	27%
Average Household Income	51,897	74,353	43%	56,880	79,674	40%	39,432	42,882	9%	38,114	61,127	60%	33,417	43,880	31%
Per Capita Income	23,847	38,519	62%	24,038	36,049	50%	15,413	22,333	45%	12,008	20,254	69%	10,738	15,438	44%
Housing Units	1,237	1,254	1%	930	950	2%	1,181	1,245	5%	666	650	-2%	1,394	1,390	0%
Vacant	159	103	-35%	100	61	-39%	101	114	13%	126	165	31%	216	261	21%
Vacant percentage	13%	8%		11%	6%		9%	9%		19%	25%		15%	19%	
Owner-occupied	511	609	19%	481	515	7%	349	418	20%	362	336	-7%	661	671	2%
Owner-occupied percentage	41%	49%		52%	54%		30%	34%		54%	52%		47%	48%	
Renter-occupied	567	553	-2%	349	370	6%	731	696	-5%	178	163	-8%	517	458	-11%
Renter-occupied percentage	46%	44%		38%	39%		62%	56%		27%	25%		37%	33%	

Note: Where percentages are shown (Race, Age, and Gender), the percent change in units, not composition, is shown in the Change column.
Source: US Census, Economics Research Associates

Appendix Table 2
Housing Profile, 2000
Primary Trade Area

	83.1	83.2	84.2	84.1	85	86	Total	District
Housing Units	1276	921	1199	696	1389	27	5508	274,845
Owner Occupied	623	497	372	381	677	7	2557	101,216
Renter Occupied	550	363	713	147	451	6	2230	147,122
Vacant	103	61	114	168	261	14	721	26,507
Units in Structure								
1, detached	48	29	31	0	75	3	186	36,331
1, attached	599	530	457	606	1109	24	3325	72,668
2	231	186	124	38	88	0	667	8,304
3 or 4	104	7	32	43	16	0	202	21,944
5 to 9	42	78	14	0	50	0	184	21,735
10 to 19	51	36	129	9	38	0	263	28,429
20 to 49	119	48	101	0	7	0	275	20,585
50+	82	7	311	0	0	0	400	64,362
Mobile home	0	0	0	0	6	0	6	203
Boat, RV, Van	0	0	0	0	0	0	0	284
Median rent	$740	$806	$480	$599	$522	$625	-	$577
Median house value	$229,400	$227,200	$143,800	$108,800	$103,200	$98,800	-	$157,200

Source: US Census, Economics Research Associates

Table 3
Average Annual Household Consumer Expenditures
Core and Secondary Trade Areas

	Core		Secondary	
	Distribution	Amount	Distribution	Amount
Food				
Food at home	7.2%	$4,315	7.3%	$4,186
Food away from home	4.3%	$2,550	4.3%	$2,457
Alcoholic beverages	0.8%	$466	0.8%	$456
Apparel and Accessories				
Men's apparel	0.9%	$535	0.9%	$510
Women's apparel	1.6%	$973	1.6%	$928
Children's apparel	0.5%	$303	0.5%	$296
Footwear	0.8%	$504	0.9%	$490
Watches & jewelry	0.5%	$295	0.5%	$275
Health Services	2.3%	$1,351	2.2%	$1,270
Automotive	1.7%	$1,000	1.7%	$960
Leisure and Entertainment	4.7%	$2,788	4.7%	$2,705
Home Furnishings	3.6%	$2,142	3.6%	$2,068
Total Household Consumer Expenditures	28.9%	$17,222	28.9%	$16,600
Average Household Income		$59,621		$57,510

Source: ESRI, US Census Bureau, Economics Research Associates

H Street Corridor Study: Retail Market Analysis
Appendix Table 6

Supportable Retail Space, Primary Trade Area, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$66,193,909	12.5%	12%	$250	**43,024**
Convenience *(3)*	$43,955,089	20.0%	12%	$280	**45,346**
Meals and Beverages	$16,788,330	20.0%	12%	$350	**37,972**
Total	**$ 126,937,329**	**N/A**	**N/A**	**N/A**	**126,342**

Supportable Retail Space, Secondary Trade Area, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$342,876,397	7.5%	12%	$250	**116,890**
Convenience *(3)*	$157,907,605	7.5%	12%	$280	**48,064**
Meals and Beverages	$38,362,899	7.5%	12%	$350	**9,342**
Total	**$ 539,146,902**	**N/A**	**N/A**	**N/A**	**174,296**

Total Supportable Retail Space, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
General Merchandise *(2*	$409,070,306	N/A	12%	$250	**159,914**
Convenience *(3)*	$201,862,695	N/A	12%	$280	**93,410**
Meals and Beverages	$55,151,229	N/A	12%	$350	**47,313**
Total	**$ 666,084,230**	**N/A**	**N/A**	**N/A**	**300,637**

Note: Secondary Trade Area approximates a ten minute drive time, less the primary trade area.

(1) Based on 2002 Mid-Atlantic averages from International Council of Shopping Centers' Monthly Mall Merchandise Index.

(2) General merchandise includes general merchandise stores, apparel stores, and furniture stores.

(3) Convenience includes groceries, personal services, stationery, drugs/sundries, books and magazines,and tobacco.

Source: US Census Bureau; Claritas Inc.; Economics Research Associates, November 2002.

H Street Corridor Study: Retail Market Analysis
Appendix Table 5

Supportable Retail Space, Primary Trade Area, 2002
(Investment Productivity)

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$62,270,000	5.0%	5%	$250	**18,524**
Convenience *(3)*	$26,018,590	15.0%	5%	$280	**24,340**
Meals and Beverages	$5,439,120	15.0%	5%	$350	**29,524**
Total	**$ 93,727,710**	**N/A**	**N/A**	**N/A**	**72,387**

Supportable Retail Space, Secondary Trade Area, 2002

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$342,876,397	5.0%	5%	$250	**72,185**
Convenience *(3)*	$157,907,605	5.0%	5%	$280	**29,682**
Meals and Beverages	$38,362,899	2.0%	5%	$350	**2,308**
Total	**$ 539,146,902**	**N/A**	**N/A**	**N/A**	**104,174**

Total Supportable Retail Space, 2002

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
General Merchandise *(2*	$405,146,397	N/A	5%	$250	**90,708**
Convenience *(3)*	$183,926,195	N/A	5%	$280	**54,022**
Meals and Beverages	$43,802,019	N/A	5%	$350	**31,831**
Total	**$ 632,874,612**	**N/A**	**N/A**	**N/A**	**176,561**

(1) Based on 2002 Mid-Atlantic averages from International Council of Shopping Centers' Monthly Mall Merchandise Index.

(2) General merchandise includes general merchandise stores, apparel stores, and furniture stores.

(3) Convenience includes groceries, personal services, stationery, drugs/sundries, books and magazines,and tobacco.

Source: US Census Bureau; Claritas Inc.; Economics Research Associates, November 2002.

H Street Corridor Study: Retail Market Analysis
Appendix Table 6

Supportable Retail Space, Primary Trade Area, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$66,193,909	12.5%	12%	$250	**43,024**
Convenience *(3)*	$43,955,089	20.0%	12%	$280	**45,346**
Meals and Beverages	$16,788,330	20.0%	12%	$350	**37,972**
Total	**$ 126,937,329**	**N/A**	**N/A**	**N/A**	**126,342**

Supportable Retail Space, Secondary Trade Area, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
GAFO *(2)*	$342,876,397	7.5%	12%	$250	**116,890**
Convenience *(3)*	$157,907,605	7.5%	12%	$280	**48,064**
Meals and Beverages	$38,362,899	7.5%	12%	$350	**9,342**
Total	**$ 539,146,902**	**N/A**	**N/A**	**N/A**	**174,296**

Total Supportable Retail Space, 2012

Retail Category	Expenditure Potential	Capture Rates	Inflow	Productivity/ Sq. Ft. (1)	Supportable Space
General Merchandise *(2*	$409,070,306	N/A	12%	$250	**159,914**
Convenience *(3)*	$201,862,695	N/A	12%	$280	**93,410**
Meals and Beverages	$55,151,229	N/A	12%	$350	**47,313**
Total	**$ 666,084,230**	**N/A**	**N/A**	**N/A**	**300,637**

Note: Secondary Trade Area approximates a ten minute drive time, less the primary trade area.

(1) Based on 2002 Mid-Atlantic averages from International Council of Shopping Centers' Monthly Mall Merchandise Index.

(2) General merchandise includes general merchandise stores, apparel stores, and furniture stores.

(3) Convenience includes groceries, personal services, stationery, drugs/sundries, books and magazines,and tobacco.

Source: US Census Bureau; Claritas Inc.; Economics Research Associates, November 2002.